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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,717	06/28/2001	Dean Tran	12-1027	5142

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PATENT ADMINISTRATOR  
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EXAMINER

FLORES RUIZ, DELMA R

ART UNIT PAPER NUMBER

2828

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

A<sup>12</sup>

<b>Office Action Summary</b>	<b>Application No.</b> 09/894,717	<b>Applicant(s)</b> TRAN ET AL.	
	<b>Examiner</b> Delma R. Flores Ruiz	<b>Art Unit</b> 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,7-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-9 and 11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7 – 9, and 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al (6,670,599) in view of Aronson et al (6,483,862).

***Regarding claims 1 and 11 – 13,*** Wagner discloses a semiconductor with integrated monitoring comprising; a first light emitting semiconductor device (see Figs. 1 – 32) formed on a predetermined substrate (see Fig. 24, Character 2402); a passivation layer (see Fig. 24, Character 2404) formed on top of said first semiconductor device, wherein the remaining portion of said semiconductor device not covered said passivation layer forms a window (see Fig. 24, Character 2405). Wagner discloses the claimed invention except for a light-monitoring device formed on top of said passivation layer for monitoring leakage light from said first semiconductor device through said window. It would have been obvious at the time of applicant's invention, to combine

Aronson of teaching a light-monitoring device formed on top of said passivation layer for monitoring leakage light from said first semiconductor device through said window with semiconductor because the monitoring device (photodetector see Fig. 2A, Character 110,) structure that minimizes the capture of the spontaneous emission light output from the light emitting device by the photodetector while electrically isolating the light emitting device from the photodetector. The electrical isolation of the light emitting device from the photodetector results in a four terminal device in which the light emitting device and photodetector may be independently biased, and can therefore be operated at a very low bias voltage, (see abstract, column 3, lines 8 – 28, Column 5, Lines 1 – 55, Column 11, Lines 66 – 67 and Column 12, Lines 1 – 2).

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**Regarding claim 2,** Wagner disclose a first semiconductor device is an active device (see Figs. 1 – 32, Column 12, Lines 55 – 62).

**Regarding claim 7 – 9,** Wagner discloses a first device is a light emitting device, the light emitting device is a laser, said laser is a VCSEL (see Figs. 1 – 32, (Column 1, Lines 24 – 59, Column 3, Lines 15 – 67, Column 4, Lines 1 – 57).

Claims 3 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al (6,670,599) in view of Aronson et al (6,483,862) further in view of Jiang et al (5,719,893).

***Regarding claims 3 – 5,*** Wagner in view of Aronson discloses the claimed invention except for a predetermined substrate is GaAs or InP or GaN substrate. It would have been obvious at the time of applicant's invention, to combine Jiang of teaching a substrate is GaAs or InP or GaN substrate (Column 2, Lines 40 – 49) with semiconductor device because it would have been obvious to one having ordinary skill in the art at the time the invention was made to substrate is GaAs or InP or GaN substrate, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

### ***Response to Arguments***

Applicant's arguments filed 7/22/2004 have been fully considered but they are not persuasive.

Applicant argues the prior art lacks: The Aronson et al. patent discloses an integrated device, which includes a AlOx layer disposed between a light-emitting device

and a photodetector. The AlOx layer disclosed in the Aronson et al. patent is configured to have a refractive index lower than the surrounding semiconductor. Thus, process controls must be tightly controlled in order for the photodetector to properly detect light emissions from the light-emitting device. On the other hand, the invention cited in the claims at issue does not have any intervening layers between the light-emitting semiconductor and the photodetector. Thus, the need for complicated and expensive process controls is totally eliminated in the present invention. For all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of these claims. The examiner disagree with the applicant arguments since the prior art does teach a light monitoring device formed on top of said window for monitoring leakage light from said first light-emitting semiconductor device through said window, (abstract, column 3, lines 8 – 28, Column 5, Lines 1 – 55, Column 11, Lines 66 – 67 and Column 12, Lines 1 – 2 and in the claims the applicant don't said the light monitoring is immediately formed on top of said window, however is possible other layer in between the light monitoring and window.) as stated in the rejection above.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Delma R. Flores Ruiz

Examiner

Art Unit 2828

DRFR/MH

October 18, 2004



Min Sun Harvey

Supervisor Patent Examiner

Art Unit 2828